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Rain Gardens for Rock Island

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Rain Gardens for Rock Island

Improving the Environment, One Garden at a Time

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Rock Island is located in western Illinois at the confluence of the Rock and Mississippi Rivers. Many neighborhoods are situated on the bluffs and storm water drains to the rivers via miles of urban streams and ravines. Street flooding troubles some areas and the ravines are degraded by years of excessive storm water runoff.

On-site storm water control is a key to protecting downstream properties from storm water runoff damage. Current regulations require land developers to provide on-site control and detention basins are included in most new developments. Unfortunately, on-site storm water management was not required when most of the city was developed and it is difficult to retrofit older neighborhoods because land is not readily available.

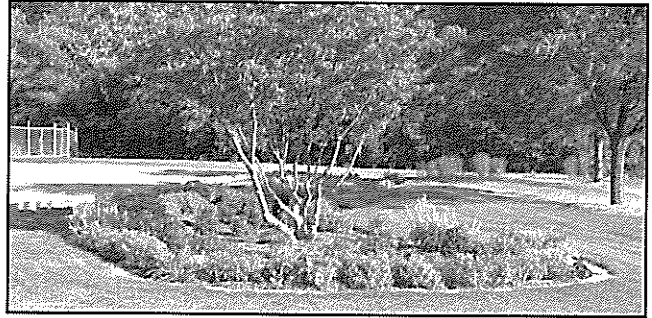
Rock Island is addressing the storm water problems in the older neighborhoods with a combination of storm sewer system improvements, neighborhood detention basins when feasible and the Rain Gardens for Rock Island Program.

A rain garden is a shallow depression planted with perennials and located to intercept rainwater flowing from downspouts and drainageways. Many types of perennials can be used, but native plants usually work the best because they are acclimated to the local environment. Rain gardens can be virtually any size and shape.

Rain gardens protect downstream properties from flooding and erosion by reducing peak storm water runoff rates and volumes. In addition, rain gardens absorb pollutants, sustain wildlife and beautify neighborhoods. Essentially, a rain garden is a miniature storm water retention basin.

Even small rain gardens provide effective storm water control. For example, assume that a building downspout drains 420 square feet of roof. A rain garden at the end of the downspout with an area of 25 square feet and an average depth of 3 inches will capture 27% of all precipitation that falls on the roof. If a rain barrel (60 gallon) is incorporated in the rain garden design, the installation will capture 42% of the precipitation (4,200 gallons per year).

The Rain Gardens for Rock Island Program was unveiled in April 2005 and there are already about a dozen applications. The proposed gardens range in size from 50 square feet to 2,400 square feet. In order to participate in



Rain Garden Capturing Parking Lot Runoff

the Program, a property owner must construct a rain garden according to city guidelines and agree to maintain it for at least five years. Once the design has been approved and the rain garden has been constructed, the city pays the property owner \$4.00 per square foot of rain garden.

The rain garden payments come from the proceeds of the storm water utility and the city hopes to invest \$50,000 (12,500 square feet) in rain garden construction each year. The city further supports rain garden partnerships by reducing storm water utility charges by as much as 50% for rain garden builders.

Obviously, one or two rain gardens will not make a measurable difference in storm water runoff from a neighborhood. However, Rock Island is in the storm water management business for the long term and the impact of ten or twenty or a hundred gardens will be noticed.

The Rain Gardens for Rock Island Program is also a valuable means of satisfying part of the new federal storm water regulations. Storm water runoff quality is being improved and the partnerships developed with rain garden builders directly address the public participation and public education components of the regulations.

In addition to storm water management benefits, the Rain Gardens for Rock Island Program provides a tangible benefit for the storm water utility. One of the first Rock Island rain garden builders told Alma Gaul of the *Quad-City Times* (August 14, 2005 Home & Garden section) that he is...

"very, very proud of the city for offering this program" and "They can



Rain Garden Capturing Downspout Runoff



Rain Garden with Rain Barrel

keep charging me (storm water utility charges) as long as they keep developing programs for a better community”

The Rain Gardens for Rock Island Program has had a strong start and enhancements are being planned for 2006 including direct mail marketing to Rock Island water customers in time for Spring construction, Rain Garden of the Year awards from the Rock Island Beautification Commission, rain garden design and construction classes and a computer bulletin board for rain garden builders to share ideas and swap plants.

More information about the program is available on the city web site (www.rigov.org). ■